REMARKS

This is in response to the Office Action dated October 20, 2009. Claims 1-23 are pending. Claims 1-21 stand rejected in the outstanding Office Action. Claim 14 has been amended. New claims 22 and 23 have been added.

The objection to claim 14 for informalities is respectfully traversed. Claim 14 has been amended to overcome the Examiner's objection.

The rejection of independent claims 1, 4-5 and 15 as allegedly being anticipated under 35 U.S.C. § 102(b) by Yamaguchi et al. (US 6,266,109) is respectfully traversed. Yamaguchi fails to disclose or even remotely suggest each and every limitation set forth in the claims. Anticipation requires that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference", *Verdegaal Bro. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) (MPEP § 2131).

Yamaguchi discloses a liquid crystal optical switching element (Figs. 1A, 1B) that can be used as a color shutter, e.g., controlling the transmission of the three primary colors, or can be used as a color image display device by being combined with an image information input means (col. 13, lines 29-59). The optical switching element of Yamaguchi comprises liquid crystal material 58 sandwiched between two substrates 50 and 51, with the substrate 51 having electrodes 53 and 54. When no voltage is applied (Fig. 1A), the medium 58 is in an optically isotropic phase. On the other hand, when a voltage is applied (Fig. 1B), the medium turns into an optically anisotropic phase (col. 15, lines 1-20). When the switching element is used in conjunction with polarizers 2 and 3 (see Fig. 3) and a light source 4, then application of a voltage on the switching element allows the light emitted from the source 4 to pass through the system (col. 15, line 56 to col. 16, line 28).

In another embodiment, a pair of the above optical switching elements 70 and 80 may be used in conjunction with a first, second and a third polarizer 90, 100 and 110, along with a light source, e.g., a monochrome electron beam fluorescent tube 120 (Fig. 5). Depending on the timing of the switching between On and Off of the voltage applied across the switching elements 70 and 80, the color of the display may be any one of the three basic colors or white (see Table 1, col. 18, lines 13-36).

Regarding independent claims 1, 4-5 and 15, the Examiner apparently identified the switching element shown in Figs. 1A and 1B as the claimed display element including a medium injected and sealed between a pair of substrates, the medium changing in magnitude of optical anisotropy upon application of voltage, each of the display elements producing a color image display (citing col. 1, lines 9-12). Moreover, according to the Examiner, col. 13, lines 44-59 in Yamaguchi teaches the limitation of "different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation", see p. 3 of the Office Action.

Even though Yamaguchi teaches liquid crystal material being enclosed between two substrates, with the optical anisotropy of the liquid crystal material being changed by application of voltage across the pair of substrates, Yamaguchi is completely silent as to the values of the voltage being applied, let alone disclosing values of the applied voltage such that the displayed colors have identical gradation.

Yamaguchi is not concerned with varying or affecting the gradation of the color image. Yamaguchi is only concerned about using the liquid crystal element as an optical shutter, e.g., as an element for allowing or not the transmission of a color light, or, if used in combination with an image display unit, using it as a color display unit e.g., displaying a green, red, blue or white

image.

The cited section in Yamaguchi, allegedly teaching this limitation, states:

> It is also possible to prepare a color image display device by combining the aforementioned color shutter with one or more image display elements which are to be disposed in the light-transmitting direction of the color shutter. As for the image display element, there is not any particular limitation as long as it is capable of outputting at least monochrome binary image. For example, an electron beam fluorescent tube, a liquid crystal image display element, a light emitting diode image display element, a field emission image display element may be employed. Among them, an electron beam fluorescent tube of monochrome type which is provided with a mixed fluorescent substance of red, green and blue is most suited for use in view of manufacturing cost, brightness and gray scale. It is also possible to combine a plurality of small image display devices to each other thereby to manufacture a large image display device.

The above section merely teaches that if the liquid crystal optical shutter of Yamaguchi is combined with an image display element, then a color image display device may be obtained, in which the color of the display can be changed by appropriately switching a combination of switching elements (as explained above, see col. 18, lines 13-15). However, this is not the same as applying different voltages to a display element, so that the colors produced by this element have an identical gradation.

As disclosed in the instant specification, the optical anisotropy of a medium between the two substrates varies depending on the wavelength, and no achromatic color can be reproduced. This is why, in the invention of claims 1, 4-5 and 15, the voltage is corrected optimally for each gradation and for each of the RGB colors (see p. 22, line 10 to p. 23, line 9 of the instant specification). Yamaguchi does not address this problem, and does not teach or suggest "different voltages being applied to the display elements so as to display the colors required to produce a color image display with an identical gradation". Even though, inherently, different voltages are applied on the switching elements in Yamaguchi, there is no teaching or suggestion

that these different voltages produce identical gradation for the color images. In fact, unless special care is taken (taught in the instant specification), the color image displays have different gradation.

For the above reasons, claims 1, 4-5 and 15 are allowable.

It is respectfully requested that the rejection of claims 2-3, 6-14 and 16-21 each being dependent from claim 1 or 4 or 5, also be withdrawn.

New claims 22 and 23 (corresponding to claims 4 and 5) are dependent from claim 15 and are also allowable.

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: /Leonidas Boutsikaris/
Leonidas Boutsikaris
Reg. No. 61,377

LB:tlm
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100